TEXTILE MUSEUM JOURNAL

Volume II—Number 3 DECEMBER 1968

CONTENTS

A STUDY OF ANDEAN SPINNING IN THE CUZCO REGION.
Miss Grace Goodell 2

HANDSPUN YARN PRODUCTION RATES IN THE CUZCO REGION OF PERU.
Junius B. Bird 9

KIRMAN'S HERITAGE IN WASHINGTON:
VASE RUGS IN THE TEXTILE MUSEUM. *Charles Grant Ellis* 17

CHINESE RUGS. *Charles Grant Ellis* 35

PRINCIPLES OF TEXTILE CONSERVATION SCIENCE, NO. IX
HOW HUMIDITY MAY AFFECT RUG, TAPESTRY, AND OTHER TEXTILE COLLECTIONS.
James W. Rice 53

PRINCIPLES OF TEXTILE CONSERVATION SCIENCE, NO. X
AN INVESTIGATION INTO CLEANING AND CONSERVATION OF MIXED LEATHER
AND FIBER ARTIFACTS. *James W. Rice* 57

TEXTILE MUSEUM NOTES 61

BOARD OF TRUSTEES AND STAFF OF THE TEXTILE MUSEUM 64

COVER: *Three women spinning yarn at Chincheros; woman seated at left with a backstrap loom,* illustration for "A Study of Andean Spinning in the Cuzco Region" by Miss Grace Goodell. Photograph by Alan R. Sawyer.

PHOTOGRAPHS of Textile Museum's illustrations are by Allen C. Marceron and Col. Osmund L. Varela. All the other photographs are courtesy of: Dr. May H. Beattie, Dr. Junius B. Bird, The Brooklyn Museum, Miss Grace Goodell, The Metropolitan Museum of Art, and Alan R. Sawyer.

Published annually. Copyright 1969 by The Textile Museum, 2320 S Street, Northwest,

Washington 20008, D.C. Printed by Graphic Arts Press, Inc. Subscription $2 a year.

The JOURNAL is designed by Petronel Lukens, Editor

A STUDY OF ANDEAN SPINNING IN THE CUZCO REGION

Miss Grace Goodell

Between March and August of 1967, I had the opportunity to undertake a field study of textile production in the Departamento of Cuzco in the southern Peruvian Andes.[1] One outcome of this project was a collection of spinning samples and the related data reported below. The forty to fifty rural communities studied, located in the Pisac and Sicuani valleys and in their *alturas* (highlands), are purely Quechua-speaking. Some are a day's ride by horse from the road. This area was chosen because I was familiar with many of the people in these villages, and consequently could count on their cooperation. I had acquired some knowledge of the weaving techniques of this region and knew which communities were outstanding for their textiles. The area was also selected because of the variety and relatively high quality of its textiles which are in many respects unique in contemporary Peru.

The hundred samples of yarn collected were made by children, women, and men from at least twenty different communities; in village markets and jails, at cold family suppers around the pot of potatoes, in the fields while watching sheep, and even at school. (Fig. 1) The samples were quite easy to collect considering the Indians' scant acquaintance with the outside world. None of the participants had ever before been queried systematically by an outsider; many had never met a white girl; none spoke Spanish. All were surprised at my plan; some were reluctant to be a part of it. A few individuals, particularly in the most remote areas, refused to participate; some spun for me, but then were unwilling to part with their samples. Usually, however, after the first person in a community or gathering had been persuaded to spin, the rest volunteered cheerfully. I paid eight cents for each sample, which the adult spinners, almost unanimously, told me they would spend on coca.

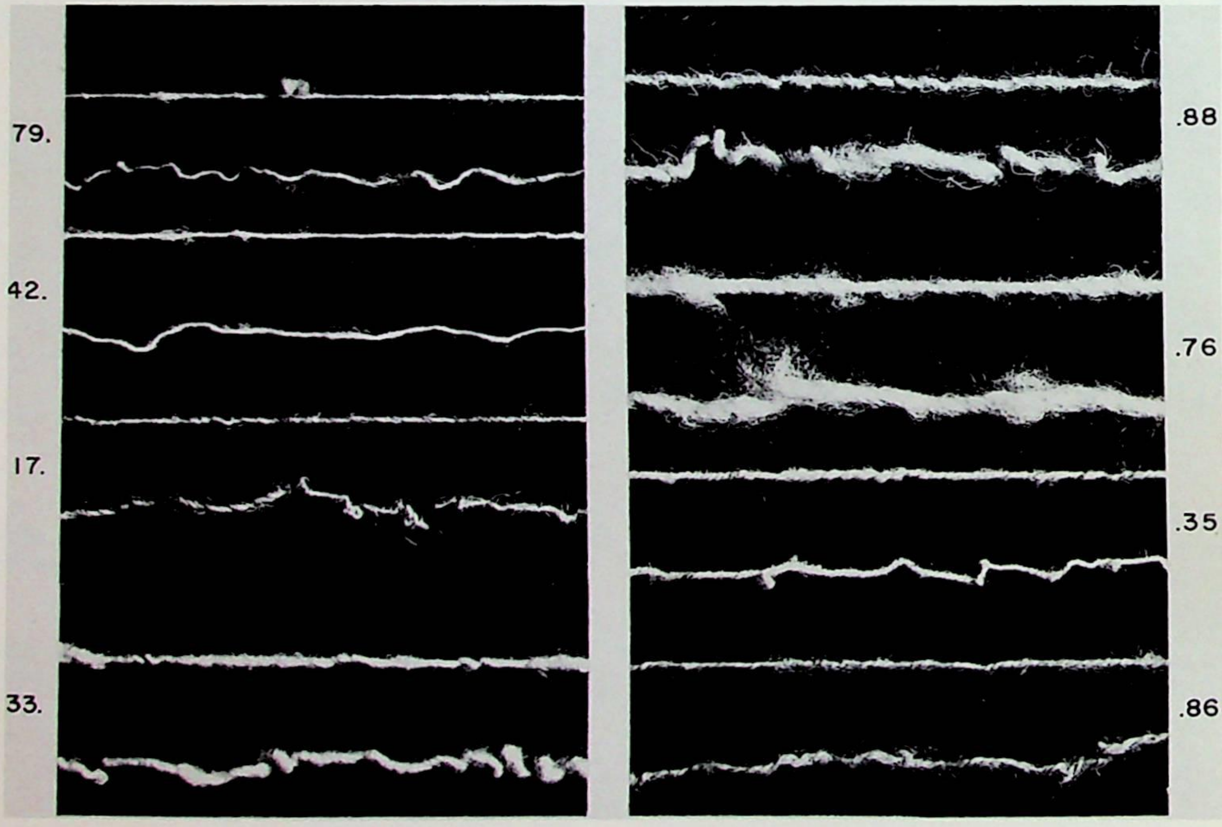

Fig. 1 *Yarn samples from the Cuzco area, all Z spun wool. Each is shown both under tension and relaxed. Marginal numbers are those of the field records with 79 the finest wool yarn collected and 76 the heaviest. Only 35 and 86 are two ply yarns.*

The spinning of each sample was closely timed at ten minutes. If a spinner already had yarn on his spindle, I tied a piece of green wool around the yarn where he began to spin for me, thus marking the portion spun in the measured time. Often the pot would boil over, the baby would cry, a sheep would stray, so that the timing had to be resumed after the interruption. The spinning time itself offered an ideal opportunity to converse about the technical aspects of yarn production. On their part, the spinners often interrogated me, asking why I was doing this strange thing. When I replied that I was trying to learn to spin, this, of course, caused great amusement: some could not picture a white girl spinning; others, in more isolated villages, could not imagine a person having to "learn" to spin, and they certainly never could understand my learning to spin by holding my round watch, and writing words. Many felt sorry for me. My uselessness as a woman and wife was often pointed out to me, as the spinner commented on the foolishness of my incessant note-taking in the demands of daily living. A few villagers asked me to explain exactly, step by step, how this exercise of handling a pencil would help my fingers acquire dexterity with a spindle.

As the study continued and I acquired a stock of samples, spinners took a great interest in comparing their products with those from other places. For this reason I never showed them what others had spun until we had finished in their community, for it was clear that community pride and rivalry might inspire them to spin differently than usual, deviating from their normal spinning habits. In discussing the comparisons between their own samples and those from elsewhere, the Indians often revealed a keen interest in spinning skills, which they always evaluated in quantity-plus-quality terms: very fine quality might compensate for the small amount of spun yarn, just as irregularity might be explained by the large quantity produced, but there was no acceptance for the small ball, poorly spun; I should never have paid eight cents to its spinner. They pointed out the variety of uses possible for each grade of yarn. Thus, thick and uneven yarn indicated that the spinner was preparing to weave a blanket or some other coarse product. The finest yarns naturally are for quality products, spun with care and pride. A measure of what can still be achieved is demonstrated by one contemporary *lliclla*[2] in which two-ply wool warps are used at the rate of 63 per cm. (158 per inch), the highest warp count I recorded.

In areas of cultural transition between the Indian tradition and Peruvian modernity there was a certain communication among spinners who met only through each others' samples. Information was deduced about the age and breed of the animal from which the wool had been taken, or sometimes even knowledge about its current habitat. Judgments were made on the modernity of the person who had prepared the wool, his geographic environment, concern for tradition, and respect for the craft; about the spinner's intended use of the yarn, his values, and perhaps even something about his age and religious outlook. Sometimes the samples stimulated guesses as to where the spinner had met me, or even glimpses into his personality. One man looked at a large ball of "crudely" spun yarn that I had collected in the valley, read its history fairly accurately, at least as far as my data were concerned, finally adding that the spinner considered me an idiot, but had been afraid to tell me so! This is a variable which no anthropologist can hope to measure, let alone control, especially one who climbs the Andes to collect small ten-minute balls of yarn.

The spinners of this area work mainly with wool and hair, the wool from domestic sheep, the hair from the llama and alpaca or their hybrid crosses. Cotton is less frequently used and I met only three Indians working with it. They obtained it by trade from the not very distant Apurimac valleys. As received, it has the bolls and seeds attached. I have seen some commercial cotton yarn used for warp and weft in textiles for the tourist trade.

Wool is generally the most popular fiber, for it is easy to spin and dye. Indian families who do not own sheep may be given hides or wool by the hacienda in exchange for services as shepherds, or they may buy them at the local market. Almost every hut seen had sheep hides for sleeping or sitting on.

The ubiquitous animal of the highlands is the llama, far more prevalent among the *altura* Indians than sheep. The Indians often attribute greater durability to the llama hair than to wool, a property which appears to be more highly valued than warmth *per se*. The people of some communities believe that llama hair cannot be dyed, and this belief, along with the strength of the hair, explains the prevalent use of natural-colored llama yarn in the selvedge or weft of ponchos, and frequently for the entire fabric of trousers, potato sacks, saddle bags, and the like.

The alpaca or *pagocha*, related to the llama, is not so commonly seen. Its hair is more uniform, finer and considerably longer in average length and is used in all types of yarn and woven products. Many of the yarn samples I collected were identified as *pagocha*. Most Indians I met believe that alpaca hair cannot be dyed, though some related with admiration that Indians along the shores of Lake Titicaca weave with red alpaca. However, I know alpaca can be dyed successfully, so cannot explain this widespread opinion, unless it stems from the fact that most of the alpaca is naturally brown in color. Alpaca is sometimes said to command supernatural powers, and may be the only fiber acceptable for curative yarns and in magical thread pertaining to romance.

Crosses between llamas and alpacas occur and have specific names indicating whether the sire is llama or alpaca. I have no information on the nature and use of hair from such animals.

The vicuña, famed for its soft, fine hair, is occasionally hunted in these remote highlands, but the hair is rarely used nowadays by Indian spinners, because a high price for it can be obtained on the black market. A few older textiles, hidden or stored away on sooty rafters, contain vicuña yarn, which is always recognized and prized.

As connoisseurs of all these fibers, the most remote Indians still designate wool or hair from a particular part of the animal's body for a specific purpose, but this degree of critical discrimination is now foreign to the valleys and communities near the roads or market towns. Wool, llama or alpaca yarns will commonly be combined in a single woven product, yet, if the fibers are ever blended or combined in a single yarn, this must be rare.

I found considerable difference of opinion as to the method of preparation of the wool or hair before spinning. There may be a basis for concluding that the spinners who retain the most pride in their craft, usually the older women in the most traditional communities, spend the most effort in washing and treating the fiber before spinning. My impression is that no elderly women in traditional communities spin *unwashed* wool. The samples collected show no correlation between cleanliness of the fiber before spinning and the quality or speed of spinning.

At least a quarter of the spinners interviewed reported that they or their families keep hides at home from which any member of the family can cut wool whenever more is needed for spinning. In such cases the wool is not washed beforehand. Some spinners reported that they boiled the wool before spinning. I was given samples of the "soap" used in the washing. This is usually a bark, called *rog'e* or *husk'a,* smelling like a mild detergent, but sometimes a commercial soap is used.

When spinners expressed a preference for washing the wool after spinning, I asked for a reason. They often replied that the wool gets so dirty in the process of spinning and plying that it is a waste to wash it beforehand. This answer was the only common explanation, though I tend to think that convenience may be a contributing factor. Even the extent to which the spinners removed burrs and larger pieces of dirt from the wool varied, though they almost always seemed embarrassed when I questioned them about such extraneous bits in their yarn.

Before wool and other natural fibers can be spun they must be arranged in a somewhat orderly fashion so they lie together evenly and are roughly parallel. This process, when done with special tools or machinery that comb or brush the fibers, is known as carding. As far as I observed, the spinners in the Cuzco area simply arranged the wool with their fingers, straightening tufts and bunches of wool and laying them together roughly parallel to form a thick, short roving. Fibers, drawn or drafted from one end of the roving, draw out other fibers and these in turn more, all ready to be twisted together into yarn.

In parts of Peru and elsewhere the prepared fiber may be held by a distaff, but I did not see any distaffs in use in the Cuzco area. Instead, the roving is draped about the forearm or wrist and over the back of the hand so that its end can be nipped between thumb and fingers. In contrast, near Huancayo, distaffs like the one shown in Fig. 2 are used. These may be made either by shaping naturally-forked sticks, or may be carved from wood. Judging from Sixteenth Century illustrations and archaeological examples, this form of distaff, according to Dr. Bird, was used by the Incas and presumably was introduced into coastal Peru by them.

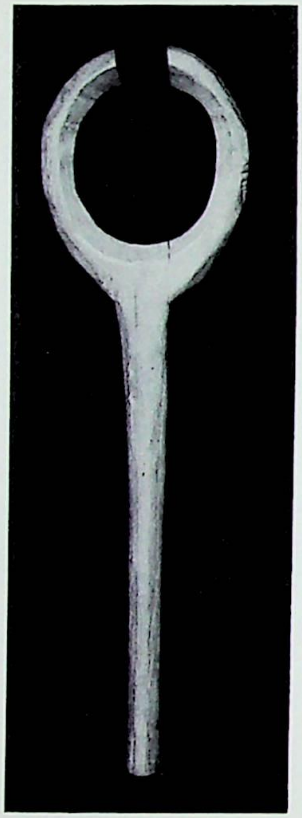

Fig. 2 *Carved wooden distaff for holding wool, a pre-Spanish, highland, form. Purchased in Huancayo. Length 25 cm.*

The Quechua drop spindle has many counterparts throughout the world. (Fig. 3, and also see cover illustration) Rural spinners frequently carve their own spindles, but in villages and towns the Indians buy them in the market for ten to twenty cents. These, too, are handmade and are frequently of a soft, rosewood found in the Paucartambo area, a day's journey from Cuzco, where wood carving is a special and profitable craft.

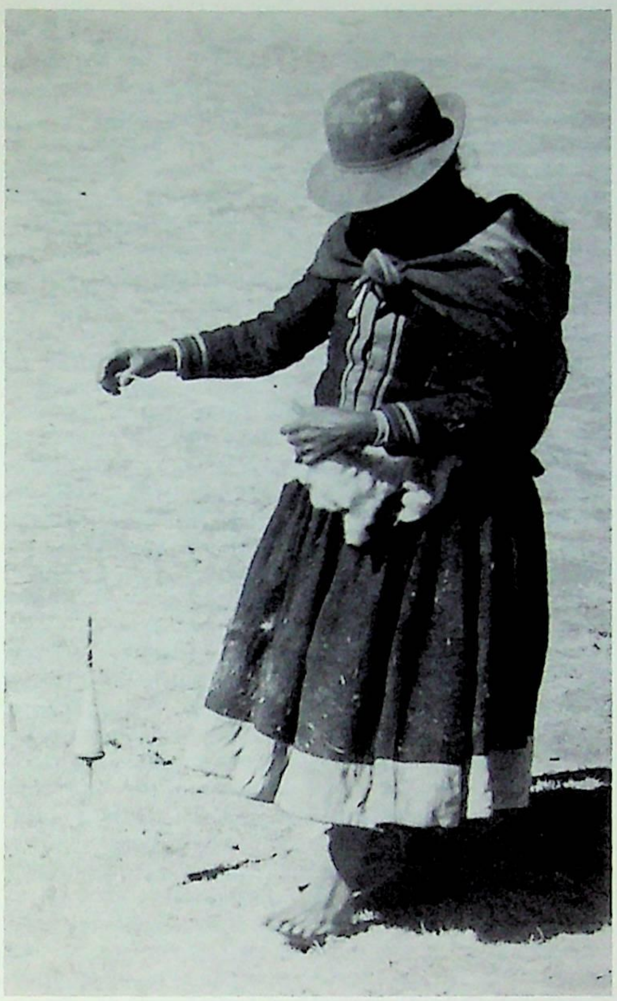

Fig. 3 *Spinning with carded wool, near Juliaca. Photograph by Alan R. Sawyer.*

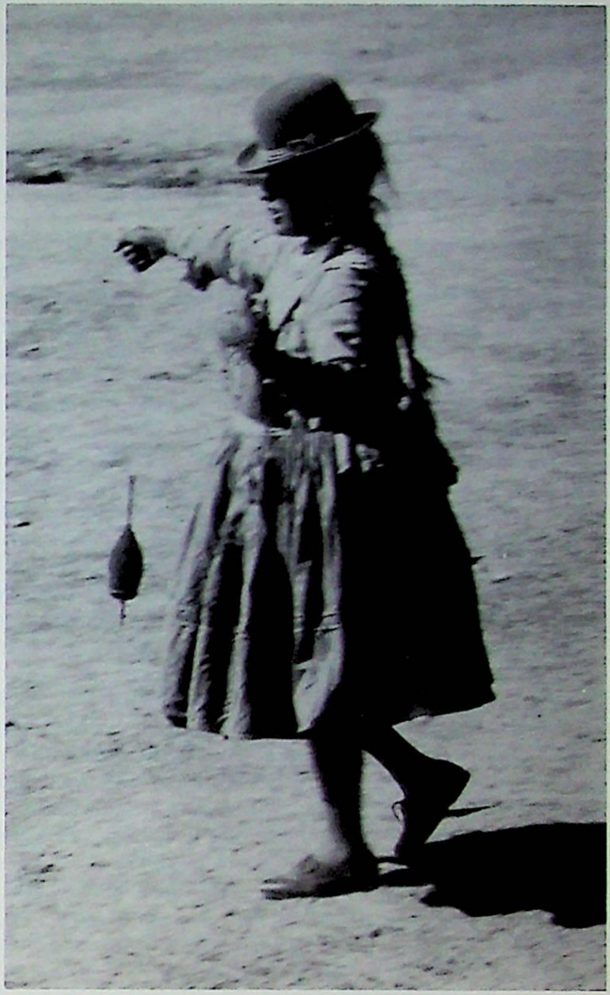

Fig. 4 *Plying yarn after it has been dyed, near Puno. Photograph by Alan R. Sawyer.*

The same spindle is not used both to spin fibers and to ply yarn, (Fig. 4) because the latter process requires a heavier implement. The spindle for spinning fibers is called a *puska* by the Quechua Indians whom I interviewed; this has its derived verb form, *puskay*, to spin. These Quechua words are used elsewhere throughout the Andes.[3] The spindle used to double thread into yarn is larger than that used for spinning; the spinners call this a *k'anti*, but do not generally use a distinguishing Quechua verb for the process; instead, they are accustomed to qualify the verb *puskay* with a reference to the *k'anti*, or, far more frequently, to use the Spanish verbs *doblar* (to double) or *torcer* (to twist). Why they resort to a Spanish verb for this process, rather than the Quechua verb *muyuy* (to ply), I do not know.

The Spanish word *rueca* for spindle is also known and sometimes used, especially in the valleys. But a Spanish word for *k'anti* was never suggested, despite the use of the Spanish verb for plying, the *k'anti* process, as I have just noted. Incidentally, it is particularly interesting that none of the spinners or weavers who were interviewed could offer a Quechua word for loom. Although each part of the loom has its standard Quechua term and the Spanish equivalents were usually unknown, even the most isolated Indians called the loom itself *telar*, a Spanish word.

The rod of the spindle has a special name in Quechua, *t'isi;* however, this term may apply to a wider category as well. The spindle whorl is generally hand carved and conical, but often the slightly more expensive ones sold in the market have been turned on a lathe. These whorls are called *phiruru*. When a very fine thread is desired, particularly of alpaca, the whorl will be removed to lighten the spindle. Along the eastern side of the Andes, or in some of the valleys communicating with that region, some spinners use a small potato or a piece of clay instead of a wooden whorl. According to my informants, this is the practice of the *chunchos*, the jungle Indians with whom some Quechua have contact.

Indian women throughout the Andes spin in their free time. In Cuzco one commonly sees women spinning as they trot along the street with babies on their backs. I have also seen men carrying heavy burdens on their backs, porters with sacks of potatoes or grain, spin yarn as they transport their loads through the streets. Nowadays in most Indian villages spinning is relegated to the women, as the men are somewhat ashamed to spin in public. This attitude does not apply to home production, nor does it apply to people from the remoter areas where men and women are accustomed to share most tasks until the work is done. However, where this distinction is made, men usually do the plying. Many spinners interviewed in communities off the road felt that plying yarn is more a man's job, though I have never met an Indian woman who would hestitate to pick up the *k'anti* when she had finished her job of spinning and there was still yarn to be plied. Of course these artificial divisions of labor are not uniform and tend to apply primarily to the "cholo" class of semi-urbanized Indians.

Children learn to spin very early in life, picking up the skill from watching their parents. Toy *puskas* can be found around many Indian homes and, while children are quite bashful about participating in such a study as ours, one of the finest samples collected was from a six-year-old girl.

The rotating spindle normally hangs suspended in the air. I saw only two old women using small bowls to support their rotating spindles, a common practice among coastal spinners working with the shorter cotton fibers. Frequently I met people acquainted with the procedure who claimed it increased the speed of rotation. In less traditional communities the small bowl is called *chubita* or *chuwa*, probably of Spanish origin, but in the mountains it is called *p'uku*.

I was unable to reach any tenable generalizations as to the number of *puskas* and *k'antis* owned by each household. Some own two or three *puskas*, never only one; others own eight or nine. It does not seem to be related to poverty. Among the families who own many *puskas* are some who relegate the plying of yarn to the men, so that there would be a need of many spindles for the women to fill while the men are more slowly emptying them.

It is quite common for the men to take charge of rolling the yarns, usually two at a time, into a ball before plying, even when plying itself is not their special responsibility. Two *puskas* full of thread are stuck into the ground. The man draws the yarns from each, forming the ball directly; or, he winds the yarns into a hank, from which he later makes the ball. Sometimes this step is skipped, and the spinner plies his yarn straight from the *puskas*, which may dangle at his side. Some people insist that the ball when made must be tight and compact, requiring a strong person with strong fingers. The ball, often the size and hardness of a baseball, is called *kurur*, and the highland Indians know how to attach it to their belts in such a way that the double thread can be drawn off easily for plying while the person, sometimes a man, is walking along.

Another kind of spinning, not uncommon among the Indian men, is employed exclusively in the manufacture of cruder yarn for rope. The spinner holds a 4- to 5-inch stick in his right hand, and the end of the fiber against the stick, gripped with his right thumb, as he rotates his lower right arm in a cranking movement, keeping his left arm motionless as he feeds the hair through his left fingers. After the hair between his hands has become well twisted, it is wound onto the stick, a process repeated with the next length of fiber. This is called *miskhusga* or *misma;* I have only seen it done by men, and then only to produce thick, tightly-twisted, single-ply yarn, generally of llama or alpaca hair.

I inquired regularly about the desirable or limiting conditions for spinning: Are there any times that you cannot spin? Which is the best spinning time? I was told that the best long periods for solid work, when one can establish an uninterrupted rhythm of spinning or plying, are while watching the herd or serving time in jail. In these circumstances a man can fill two *puskas* in a day, which is considered an accomplishment of diligent application. There is nothing idle about these hard-working people when they find themselves in jail; rather, jail is an ideal place for weaving or for the preparation of enormous quantities of new yarn. The courtyard of an Andean Indian jail is often a colorful and busy place. As many as seven or eight men may have their respective back-strap looms secured to a single tree or weaving pole in the middle of the yard, as they sit around it weaving ponchos that stretch out like broad strands from a maypole. Meanwhile other prisoners spin in the sun, or help one another to prepare the wool or yarn at different stages of its processing. This is such a common practice that many middle-class Peruvians order their ponchos woven by indigenous prisoners.

In some more transitional communities it is considered sinful to spin on Sunday. In one area the rule is that women should not spin during their menstrual period. It is generally agreed that spinning in the dark is difficult, or in the early morning when you first arise, or in the rain. Too much moisture in the air prevents the wool from drawing out easily; cold stiffens fingers that may be arthritic. But these subtle distinctions are not often made, and when they are, it is almost always in the least accessible mountain hamlets.

In some areas, however, there are many distinctions that clearly govern the direction of the spin or twist of the yarn. These are based on faith in the magical properties of yarn spun "clockwise" (with an S twist), called *lloq'e*, in contrast to the normal everyday product made with a Z twist. The Quechua word *lloq'e* means left and also "something different." In this case it would mean "the left-spun yarn." In almost every Indian community visited, including villages on the main valley roads, some superstitions pertaining to *lloq'e* yarn still survive; everywhere in the mountains the medicinal and religious lore employing *lloq'e* is rich, diverse, and very strong. Sometimes only *brujos* (medicine men) can spin *lloq'e*, in which case everyone else, even left-handed spinners, must produce Z-twist yarn. Z singles when plied are, of course, doubled with an S twist; the *lloq'e* S-twist yarns, with a Z. Sometimes left-handed adolescent girls have monopoly on *lloq'e* production although they normally use the Z twist judging from the eight left-handed spinners observed. Most prevalent, however, is the understanding that any spinner may spin clockwise to make the S twist, but only when he needs *lloq'e* for a special purpose.

It is generally accepted that *lloq'e* protects one from "the winds," and is particularly efficacious for rheumatics and pregnant women. Sick people or victims of hexes wear *lloq'e* around their wrists or ankles for protection or healing; an observant traveler may count as many as half the adults in an overland truck wearing *lloq'e* for travel safety. *Lloq'e* made into 2-ply yarn is said to be more durable, too, perhaps even protecting the garment from evil influences. Many weavers claim to prefer *lloq'e* for the selvedges, also for the binding bands or borders of weaving products. In practice, however, this is not often carried out if we can judge from the garments I collected. As it does occur in some, this detail should be looked for by those interested in the weavings of the region.

Lloq'e is always present in offerings for *Pachamama,* the earth spirit (*pacha,* Quechua for earth), who is specially honored after the harvest in July or August. A small *'unkhuña* or napkin-sized cloth is filled with the family's *recados* (Spanish origin, meaning mementos), consisting of plants and beans, minerals, shells, and other odd bits possessing magical force. A piece of *lloq'e* is included among these offerings; in some areas the *'unkhuña* itself should be woven of *lloq'e* yarn. *Lloq'e* is also good for success in romance, being an important part of many hex bundles or magical "packets" that are boiled, burned, or hidden according to formula, to increase the ardor of an indifferent beloved. It can be knotted, not unlike the ancient *quipu,* thus adding a certain individuation to the desired prescription.

While it would be going too far to say that folk magic associated with spinning is never intermingled with Christian intercession, I found most Indians distinguishing between native pagan and Catholic traditions in their own minds; indeed, I found them quite consistently differentiating between the two realms of deities involved. If the traditions are intermingled, they are not necessarily confused, at least by the Indians, although outsiders may be confused. Generally, you do not spin *lloq'e* for the Virgin Mary, because *lloq'e* is what *Pachamama* likes; candles are more appropriate for Christian dealings. Some spinners were able to articulate this fairly well, explaining that the local *lloq'e* practices for, say, healing comprise the most logical remedy to apply first, but if this does not work, then give the *cura* (priest) a try. More than once I met people who believed that actually Jesus would be rather provoked about *lloq'e* and the medicineman's whole approach, whereas *Pachamama* on her part surely wants none of Jesus' ritual: therefore, it is best to keep them both happy, thus out of one's way. Christianity is not as crucial as are the powers of the earth, however, because Jesus and his saints do not punish the negligent with bad crops or illness. That is *Pachamama's* prerogative, and there's the rub. Thus *lloq'e* is not a trivial item in meeting the problems of rural daily living.

Returning to the production of everyday yarn: I always inquired about the dyeing procedures, the final step before weaving. I was able to collect some eighteen botanical samples from plants reported to be useful for dyeing yarn. I recorded only those plant samples mentioned by at least four spinners or weavers; many of the individuals who named the plants had never used them. With the notable exception of *nogal,* only in the more remote regions did I find the Indians actually preparing dyes with non-commercial material.

Three of the most common dyes are: *nogal,* the leaft of the walnut tree which abounds in the valleys and can be obtained by barter at fairs; *cochinilla,* ground cochineal scale insects obtained from Puno, coming perhaps from Bolivia or the Peruvian coast; and *carbon de casa, soot.* This third dye material, soot, sometimes hangs like Spanish moss from the rafters inside an Indian hut. It is mixed with urine, lemon juice, fermented corn beer, or other liquids to produce various shades of browns, yellows, gold, that are reputed to be very fast.

It seems that in this region a multifarious and very old science of treating and coloring fibers is about to become extinct. Aniline dyes have been available for almost 100 years in centrally-situated villages; even old women and men in the mountains were puzzled by my queries concerning vegetable or mineral dyes; they knew only that the walnut tree bears a leaf that may be used. Many do not realize that *cochinilla* is a natural product, for it is bought in the market in a form similar to aniline.

Yet once in a while one meets a person who for some reason all his own has arranged and stored away carefully in his upper closet, as it were, a cache of information about softening wool, dyeing it, and making dyes fast. In the far corner of Quispe's field is a deposit of a white soil which, when mixed thus and processed so, will wake up your reds alive; or a cup of *ch'illka* found on the hill between here and Ananiso—but *not* the *ch'illka* on the Osifina path—will mellow the orange. My interpreter searches his own vocabulary for color subtlety and tonal words: what season, moreover even what day in the season, is best for picking the berry —how to boil—in what size cauldron—the importance of cleaning the water first—how to test—when to soak—how to remove the yarn and hang it to dry. . . . At first, bits and pieces get pulled down from memory and opened up slowly; then more are there, sundry curious recollections or "facts" tumbling forth. "And the ancient, glittering eyes are gay."

Even today there is an element of excitement in the corral when a woman is dyeing her wool with plant matter collected, trimmed, sorted, and cleaned. It is the only color-making occasion in the year's routine, and bright color is a rare commodity in the highlands. Possibly some of the dyes were once brought up from the jungle by the *chunchos* and exchanged for potatoes or metals or shells. The popular dye *ch'api* (red) is imported annually from the Paucartambo region by traveling traders or by Indian boys sent down there for army service. The techniques to make dyes permanent were especially essential when a man wore his poncho for a lifetime, most of that time in the high Andean sun, and when his poncho was a possession that gave pride to him as well as to his village.

The wool is rarely dyed before spinning; in over 95 per cent of the cases observed, dyeing of the yarns was the last step before weaving. Once dyed, the yarn is hung in the shade in looped hanks across the protruding rafter beams beneath the eaves. This hank of colored yarn is called *madeja*, a Spanish word meaning skein. The yarn must again be wound into tight balls which will enable rapid and accurate warping; after the balls are wound, the yarn is ready for knitting or weaving. The garments are made at home, or the yarn is taken to a professional weaver in the community, who charges two to five sheep for his labor. But the weaver's work in itself is another story.

NOTES

[1] For travel and photographic expenses, as well as for encouraging my initial enthusiasm and giving me courage to plunge into a field completely strange to me, I am very grateful to Mr. and Mrs. David Challinor. For advice, encouragement, and interest, I wish to thank Dr. Junius B. Bird and Miss Irene Emery. For all her patient work in measuring and tabulating the spinning sample data, I am indebted to Mrs. John Tishman. Finally, I was assisted in various ways by my friends in the Peace Corps, particularly Mr. Andrew von Foerster who took numerous photographs, and by the many Peruvians with whom I had contact, especially Mr. Federico Alarco, who suggested I study the native weaving in the Cuzco area, and who helped me in the execution of this project.

[2] *Lliclla* (carrying cloth) is a multi-purpose square or rectangular cloth usually woven in two sections and generally used for carrying everything from babies to onions. It also serves as cape or mantle.

[3] I wish to thank Prof. John Rowe and Dr. George Flores for their help in several points on Quechua spelling and vocabulary.

MISS GRACE GOODELL became interested in native fabric production of Peru during her service with the Peace Corps in the Cuzco area. Subsequently she spent several months there gathering information, examples of regional products and the yarn samples which form the basis for this article. She has since spent three months traveling to weaving communities in various parts of Bolivia in order to plan for future research there. This fieldwork has been supported mainly by Mr. and Mrs. David Challinor and in part by the American Museum of Natural History.

Miss Goodell, born in 1939, received B.A. degrees from both Wellesley and Oxford and an M.A. from the latter where she majored in medieval English. She is currently enrolled for graduate studies at Columbia yet finds time for weaving as an extracurricular activity. ◆